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10/764,409

01/23/2004

B. Mark Hirst

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EXAMINER

LAXTON, GARY L

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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**MAILED**

**OCT 17 2007**

**GROUP 2800**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/764,409  
Filing Date: January 23, 2004  
Appellant(s): HIRST, B. MARK

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Edward J. Brooks III  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 6/15/2007 appealing from the Office action mailed 1/24/2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,813,168	Balakrishnan	11-2004
6,236,192	Suzuki et al.	5-2001
5,872,983	Walsh et al.	2-1999

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 7, 9-18, 20, 22, 24-30, 32-36, 41-45, 47, 49, 51 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al.

Claims 1-3, 5, 7, 9-18, 20, 22, 24, 34-36 and 41-42; Suzuki et al disclose a power converter; the power converter including a charge pump capacitor (e.g. C1, C2 or C3), the charge pump capacitor coupled to a two transistor totem-pole configuration (e.g. SW1, SW2) in the converter so as to drive a primary of an isolation transformer and wherein a parasitic diode is

coupled across at least one transistor in the two transistor totem-pole configuration with opposite internal diodes (e.g. figure 3: 71a).

Claims 43-45, 47, 49, 51 and 52 means for converting from an AC voltage to a DC voltage ( $L_S$ ,  $C_S$ ,  $L_M$ ,  $D1$ ,  $D2$ ,  $Co$ ,  $Vo$ ,  $Ro$ ), at least figure 10; the means for converting including a means for isolation ( $L_M$ ), the means for isolation including a primary ( $C_S$ ,  $L_S$ ) and a secondary ( $D1$ ,  $D2$ ); the means for converting being coupled so that, in operation, AC to DC voltage rectification does not occur on the primary of the means for isolation. Wherein the means for converting includes being coupled to a two transistor totem-pole configuration: and wherein a parasitic diode is coupled across at least one transistor in the two transistor totem-pole configuration (i.e. 71a).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, 6, 19, 21, 37, 38, 46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Walsh et al.

Suzuki et al disclose the claimed invention in regards to claims 1, 34 and 43 supra, except for wherein the power converter is incorporated on a motherboard and except for wherein the DC power consuming device comprises at least one of a fax, printer, scanner, and copier.

Motherboards comprising power supplies to provide power to peripheral devices such as printers is very well known in the art as a method of providing power to the components in computer systems. Walsh et al, for example, teach a motherboard comprising a power supply and connected to a fax, printer, scanner, or copier in order to provide an electronic computer system with power management to provide power requirements to peripheral devices such as faxes, printers, scanners or copiers.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the power supply of Huang et al to be integrated on a motherboard and to provide power to a fax, printer, scanner or copier as taught by Walsh et al in order to supply power to the fax, printer, scanner, or copier from a computer system.

Claims 8, 23, 40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Balakrishnan.

Suzuki et al disclose the claimed invention in regards to claims 1, 34 and 43 supra, except for wherein power converter includes an input pi filter.

Balakrishnan teaches that known power supply techniques employ input EMI filter circuits of varying complexity. The simplest form of input EMI filter is known as a pi filter and is used in low-power power supplies to reduce power supply cost (col. 1 lines 25-35).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the power supply of Huang et al to include a pi filter in order to reduce power supply cost as taught by Balakrishnan.

#### **(10) Response to Argument**

I. The examiner rejected claims 1-3, 5, 7, 9-18, 20, 22, 24-30, 32-36, 41-45, 47, 49, 51 and 52 under 35 U.S.C. 102(b) as being anticipated by Suzuki et al.

##### **A. Claims 1, 11 and 34**

The applicant argues that Suzuki et al. do not describe a converter having a charge pump capacitor coupled to a two transistor totem-pole configuration in the converter so as to drive a primary of an isolation transformer. First of all, it should be noted that the applicant uses the term “coupled” in the claims indicating an indirect connection. If the applicant intended to claim a direct connection, it is clear the applicant would have used a more precise limitation to indicate direct physical connections in the circuit. Therefore, the term “coupled” has been given the broadest reasonable interpretation in accordance with the law.

The MPEP states:

##### **904.01 Analysis of Claims**

The breadth of the claims in the application should always be carefully noted; that is, the examiner should be fully aware of what the claims do not call for, as well as what they do

require. During patent examination, the claims are given the broadest reasonable interpretation consistent with the specification. See *In re Morris*, 127 F.3d 1048, 44 USPQ2d 1023 (Fed. Cir. 1997). See MPEP §2111 - §2116.01 for case law pertinent to claim analysis.

The applicant further argues that "...the switches in Suzuki et al. are coupled to the primary of the coil and are not coupled to a charge pump capacitor so as to drive the primary of an isolation transformer." The claim merely calls for a charge pump capacitor "coupled" to a two transistor totem-pole configuration (S1 or S2) in the converter so as to drive a primary of an isolation transformer (C1, C2 especially, are coupled to the two transistor totem-pole configuration S1 or S2, through DC rail 3 or through ground or through winding n1 or through r1 and C3). And, the charge pump capacitor drives the primary winding at node 33, clearly. Moreover, the pump capacitor (C1 or C2 or C3) is "coupled" between the transistor totem-pole to drive the primary. Since the phrase "coupled between" is not an exact location, the examiner is free to the given broadest reasonable interpretation afforded by law. Therefore, the examiner contends that Suzuki et al. disclose the claimed invention as stated.

B. Claim 25

The applicant argues that Suzuki et al. do not disclose have an electrical storage element coupled to a two totem-pole configuration that supplies current without rectification during another portion of the cycle. This argument bears no merit since Suzuki et al. discloses an AC voltage regulator in figure 3 (emphasis). There is no rectification occurring in figure 3 of Suzuki et al. which the examiner relied upon. Therefore, the examiner contends that Suzuki et al. do in fact disclose the claimed invention.



C. Claim 43

The applicant argues that Suzuki et al. does not disclose converter AC voltage to DC voltage where rectification does not occur on the primary of the means for isolation. Suzuki et al. illustrate in at least figures 10 and 11, means for converting AC to DC (18 and 19) where rectification does not occur on the primary (r1, C3 of 4) of the isolation means (4). That is, AC is input at terminals (1a, 1b) and AC is applied to the transformer (4). There is no rectification on the primary [side]. Therefore, the examine contends that Suzuki et al. does indeed disclose the “claimed” invention when giving the claim language the broadest reasonable interpretation in accordance with the law.

II. The examiner rejected claims 4, 6, 19, 21, 37, 38, 46 and 48 under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Walsh et al.

D. Claims 4, 6, 19, 21, 37, 38, 46 and 48

The teachings of Walsh et al. were used merely to teach that it is well known in the art by those of ordinary skill, that motherboards comprise power supplies to provide power to peripheral devices such as printers; and, that it is well known that faxes and printers and scanners are known load devices requiring power from power supplies. Walsh et al. was not used to cure any alleged deficiencies in the rejection of the independent claims.

III. The examiner rejected claims 8, 23, 40 and 50 under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Balakrishnan.

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E. Claims 8, 23, 40 and 50

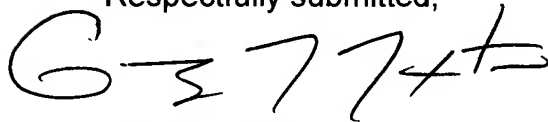
Balakrishnan, as well, was not used to cure any alleged deficiencies in the rejection of the independent claims. Balakrishnan was used to teach a known filter circuit according to the dependent claims.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

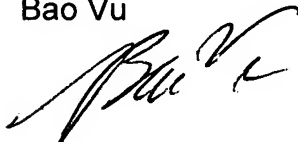
Respectfully submitted,

A handwritten signature in black ink, appearing to read "G-L Laxton", written over the typed name.

Gary L. Laxton

Conferees:

Bao Vu

A handwritten signature in black ink, appearing to read "Bao Vu", written over the typed name.

Darren Schuberg

A handwritten signature in black ink, appearing to read "Darren Schuberg", written over the typed name.